

CLAIMS

1. A process for producing a synthetic resin film, comprising:

5 (A) a step of casting and applying a composition containing a polymer and an organic solvent onto a support to form a gel film;

(B) a step of stripping the gel film and heating the gel film with both ends being fixed; and

10 (C) a step of heating the film with both ends being released after step (B), wherein the thickness b of the film produced in step (B) and the thickness c of the film produced in step (C) satisfy the relationship $b > c$.

15 2. The process for producing the synthetic resin film according to Claim 1, wherein heating in step (C) is performed under a tension of 0.10 to 1.50 kg/mm² in the machine direction (MD) of the film.

20 3. The process for producing the synthetic resin film according to Claim 1 or 2, wherein heating in step (B) is performed at a maximum atmospheric temperature of 450°C or lower.

25 4. The process for producing the synthetic resin film

according to any one of Claims 1 to 3, wherein heating in step (B) is performed by treatment with hot air.

5. The process for producing the synthetic resin film according to any one of Claims 1 to 3, wherein heating in step (B) is performed by treatment with radiant heat rays.

6. The process for producing the synthetic resin film according to any one of Claims 1 to 3, wherein heating in step (B) is performed by a combination of hot air treatment and radiant heat rays treatment.

7. The process for producing the synthetic resin film according to any one of Claims 1 to 6, wherein heating in step (C) is performed at an atmospheric temperature of 430°C or higher.

8. The process for producing the synthetic resin film according to any one of Claims 1 to 7, wherein heating in step (C) is performed by treatment with hot air.

9. The process for producing the synthetic resin film according to any one of Claims 1 to 7, wherein heating in step (C) is performed by treatment with radiant heat rays.

10. The process for producing the synthetic resin film according to any one of Claims 1 to 7, wherein heating in step (C) is performed by a combination of hot air treatment and radiant heat rays treatment.

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11. The process for producing the synthetic resin film according to any one of Claims 1 to 7, wherein heating in step (C) is performed by simultaneous treatment with hot air and radiant heat rays.

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12. The process for producing the synthetic resin film according to any one of Claims 1 to 11, wherein the synthetic resin film comprises a polyimide.

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13. A process for producing a synthetic resin film, comprising:

(A) a step of casting and applying a composition containing a polymer and an organic solvent onto a support to form a gel film;

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(B) a step of stripping the gel film and heating the gel film with both ends being fixed; and

(C) a step of heating the film with both ends being released after step (B), wherein the heating temperature in step (B) is higher than that in step (C).

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14. The process for producing the synthetic resin film according to Claim 13, wherein heating in step (B) is performed at a maximum atmospheric temperature of 450°C or lower.

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15. The process for producing the synthetic resin film according to Claim 13 or 14, wherein heating in step (C) is performed at an atmospheric temperature of 430°C or higher.

10 16. The process for producing the synthetic resin film according to any one of Claims 13 to 15, wherein the synthetic resin film comprises a polyimide.